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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,742	06/07/2001	Toshiyuki Miyauchi	450100-03274	1867

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EXAMINER	
TORRES, JOSEPH D	

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/876,742	MIYAUCHI ET AL.	
	Examiner	Art Unit	
	Joseph D. Torres	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 49-61* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *49-61* is/are rejected.

7)☒ Claim(s) *1-13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: lines 14, 15 and 17-19 should be properly indented so that the elements of lines 14 and 15 appear as sub-elements of the path selection means in line 13 and the elements of lines 17-19 appear as sub-elements of the absolute value selecting means in line 16. Lines 13 and 16 should be properly indented so that the elements of lines 13 and 16 appear as sub-elements of each of said second probability computing means and said third probability computing means in line 11-12. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 49-61 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites new matter, "A computer program, stored on a tangible recording medium, aimed at maximum likelihood decoding, the program comprising executable instructions that cause a computer to".

Nowhere in the specification does the Applicant recite any computer program for carrying out the method of claim 49.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 50-61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 50-61 recite the limitation "The method" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Specification

4. Claim 1 recites new matter, "A computer program, stored on a tangible recording medium, aimed at maximum likelihood decoding, the program comprising executable instructions that cause a computer to". Nowhere in the specification does the Applicant recite any computer program for carrying out the method of claim 49.

Response to Arguments

5. Applicant's arguments with respect to claims 49-61 filed 08/30/2005 have been fully considered but they are not persuasive.

The Applicant contends, "In section 4 of the Office Action, claims 49-61 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 49-61 have been amended to address the rejection.
Accordingly, it is submitted that the rejection of claims 49-61 based upon 35 U.S.C. § 101 has been obviated and withdrawal thereof is respectfully requested".
First of all, the preamble of a claim is not normally given patentable weight. Second of all, most computational methods can be rewritten as computer programs and saved on floppy disks. The Examiner new that the computational method of claim 49 was capable of being rewritten into computer code and saved on a floppy, before the Applicant even amended the preamble. A method becomes useful when it is tied to hardware or a hardware environment for which it produces a useful result. A computer program saved on a floppy generally does not produce any useful result for the floppy. Likewise executing the program in a processor only makes the program statutory if it produces a useful result for the processor or some other hardware environment. For example 2+2=4 is a mathematical algorithm. Writing an executable program for 2+2=4 and saving it on a floppy does not make the algorithm statutory.

The Applicant contends, "Since claim 49, as amended herein, closely parallels, and includes substantially similar limitations as recited in, claim 1, claim 49 should also be allowable over Van Stralen and Yamanaka. Since claims 2-3 and 50-51 depend from claims 1 and 49, respectively, claims 2-3 and 50-51 should also be allowable over Van Stralen and Yamanaka. Accordingly, it is submitted that the rejection of claims 1-3 and

49-51 based upon 35 U.S.C. §103 (a) has been overcome by the present remarks and withdrawal thereof is respectfully requested".

Claim 49 more closely parallels claim 1 prior to being amended and does not come close to paralleling newly amended claim 1. For example, the following elements of claim 1 cannot be found in claim 49,

"wherein each of said second probability computing means and said third probability computing means includes

a path selection means, said path selection means ***including***:

a plurality of comparator circuits to perform comparison operation,

a plurality of selectors to perform selection operation; and

an absolute value selecting means, said absolute value selecting means ***including***

a plurality of absolute value computation circuits to perform absolute value computation, and

a plurality of selectors to perform selection operation," [Emphasis Added]...

"wherein **said absolute value data selecting means** compares said computed absolute value data to determine which is larger on the basis of information on **the *outcome* of comparison obtained by a plurality of said comparator circuits**".

Furthermore, MPEP § 714.04 states, "In the consideration of claims in an amended case where no attempt is made to point out the patentable novelty, **the claims should not be allowed**. See 37 CFR 1.111 and MPEP § 714.02.

An amendment failing to point out the patentable novelty which the applicant believes the claims present in view of the state of the art disclosed by the references cited or the objections made may be held to be not fully responsive and a time period set to furnish a proper reply if the statutory period has expired or almost expired (MPEP § 714.03). However, if the claims as amended are clearly open to rejection on grounds of record, **a final rejection should generally be made**".

All amendments and arguments by the applicant have been considered. It is the examiner's conclusion that the claims, as amended, are not patentably distinct or non-obvious over the prior art of record in view of the references, Van Stralen, Nick Andrew et al. (US 6304996 B1, hereafter referred to as Van Stralen), Yamanaka; Ryutaro et al. (US 6330684 B1) and Benedetto et al. (S. Benedetto, D. Divsalar, G. Montorsi, and F. Pollara, Soft-Output Decoding Algorithms in Iterative Decoding of Turbo Codes, TDA Progress Report 42-124, NASA Code 315-91-20-20-53) in view of XP-000888685 ("Simplified Log-Map Algorithm", Research Disclosure, Kenneth Mason Publications, Hampshire, GB, No. 421, May 1999, Page 612, ISSN: 0374-4353: Note this publication was provided by the Applicant in US Application 09/875310) as applied in the Final Action filed 03/11/2005. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 49-61 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 49 recites an abstract algorithm that can be carried out by hand or in a computer program with no tangible connection to hardware. Computer programs are non-statutory. Abstract algorithms are non-statutory.

The Applicant contends, "In section 4 of the Office Action, claims 49-61 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 49-61 have been amended to address the rejection.

Accordingly, it is submitted that the rejection of claims 49-61 based upon 35 U.S.C. § 101 has been obviated and withdrawal thereof is respectfully requested".

First of all, the preamble of a claim is not normally given patentable weight. Second of all, most computational methods can be rewritten as computer programs and saved on floppy disks. The Examiner new that the computational method of claim 49 was capable of being rewritten into computer code and saved on a floppy, before the Applicant even amended the preamble. A method becomes useful when it is tied to hardware or a hardware environment for which it produces a useful result. A computer program saved on a floppy generally does not produce any useful result for the floppy. Likewise executing the program in a processor only makes the program statutory if it produces a useful result for the processor or some other hardware environment. For example 2+2=4 is a mathematical algorithm. Writing an executable program for 2+2=4 and saving it on a floppy does not make the algorithm statutory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Stralen, Nick Andrew et al. (US 6304996 B1, hereafter referred to as Van Stralen) in view of Yamanaka; Ryutaro et al. (US 6330684 B1).

See the Non-Final Action filed 03/11/2005 for detailed action of prior rejections.

2. Claims 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Stralen, Nick Andrew et al. (US 6304996 B1, hereafter referred to as Van Stralen) and Yamanaka; Ryutaro et al. (US 6330684 B1) in view of Benedetto et al. (S. Benedetto, D. Divsalar, G. Montorsi, and F. Pollara, Soft-Output Decoding Algorithms in

Iterative Decoding of Turbo Codes, TDA Progress Report 42-124, NASA Code 315-91-20-20-53).

See the Non-Final Action filed 03/11/2005 for detailed action of prior rejections.

3. Claims 54, 57, 58, 60 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Stralen, Nick Andrew et al. (US 6304996 B1, hereafter referred to as Van Stralen), Yamanaka; Ryutaro et al. (US 6330684 B1) and Benedetto et al. (S. Benedetto, D. Divsalar, G. Montorsi, and F. Pollara, Soft-Output Decoding Algorithms in Iterative Decoding of Turbo Codes, TDA Progress Report 42-124, NASA Code 315-91-20-20-53) in view of XP-000888685 ("Simplified Log-Map Algorithm", Research Disclosure, Kenneth Mason Publications, Hampshire, GB, No. 421, May 1999, Page 612, ISSN: 0374-4353: Note this publication was provided by the Applicant in US Application 09/875310).

See the Non-Final Action filed 03/11/2005 for detailed action of prior rejections.

Allowable Subject Matter

Claims 1-13 would be allowable, if lines 14, 15 and 17-19 were properly indented so that the elements of lines 14 and 15 appeared as sub-elements of the path selection means in line 13 and the elements of lines 17-19 appeared as sub-elements of the absolute value selecting means in line 16. Lines 13 and 16 should also be properly indented so that the elements of lines 13 and 16 appear as sub-elements of each of

said second probability computing means and said third probability computing means in line 11-12. Example:

"wherein each of said second probability computing means and said third probability computing means includes

a path selection means, said path selection means ***including***:

a plurality of comparator circuits to perform comparison operation,

a plurality of selectors to perform selection operation; and

an absolute value selecting means, said absolute value selecting means ***including***

a plurality of absolute value computation circuits to perform absolute value computation, and

a plurality of selectors to perform selection operation," [Emphasis Added]...

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

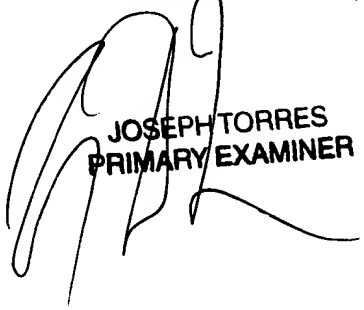
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Art Unit 2133